

**REMARKS***Claim Rejections Under 35 U.S.C. § 103*Claims 1-4, 6-7, 10, 13, 17-31, 39-49, 54-62, 65, 70-76, 78-81, 84 and 89-99

Claims 1-4, 6-7, 10, 13, 17-31, 39-49, 54-62, 65, 70-76, 78-81, 84, and 89-99 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370). Applicant respectfully traverses.

With respect to claim 1, the Office Action asserts that Stobbs et al. teaches a synchronous memory interface. Office Action, page 3, first two paragraphs (referring to local interface 58 in Figure 2). Applicant contends that this is a mischaracterization of the Stobbs et al. reference. In particular, there is no description in Stobbs et al., either express or implied, that the local interface 58 provides a synchronous memory interface. In fact, no form of the term “synchronous” appears anywhere in the Stobbs et al. reference. Because there is no support of record for interpreting the local interface 58 of Stobbs et al. as a synchronous memory interface, Applicant contends that the Office cannot rely on this assertion in support of any rejections of the claims.

The Office Action relies upon the secondary reference of Lai et al. to teach “that the synchronous interface is a SDRAM (i.e. SyncFlash DRAM) interface bus” and concludes that “it would have been obvious to one of ordinary skills in the art at time of the current invention was made to use SDRAM and the SDRAM interface taught by Lai in the memory device taught by Stobbs.” Office Action, page 3, third paragraph. Applicant contends that Stobbs et al. cannot be modified to use the SYNCFLASH memory or its interface as asserted by the Office Action as Stobbs et al. expressly teaches away from such combination in that its stated purpose is to replace Flash memory. *See, e.g.*, Stobbs et al., abstract (“A magnetic memory device capable of replacing a Flash memory within a computer, is provided.”), paragraph 0010 (“In light of the foregoing, the preferred embodiment of the present invention generally relates to a magnetic memory device for replacing Flash memory within a computer.”) and paragraph 0012 (“[T]he method can be broadly summarized by the following steps: replacing a Flash memory located within said computer with a magnetic memory device comprising a magnetic storage device, a

temporary memory and a controller . . .”). Because Stobbs et al. expressly teaches away from the use of Flash memory, and because the modification by Lai relies on the use of Flash memory, i.e., the SYNCFLASH synchronous Flash memory and its interface, Applicant contends that the combination is improper and cannot support a rejection under 35 U.S.C. § 103(a). *See, e.g.*, MPEP § 2143 (“When the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious.”)(quoting *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, 82 USPQ2d 1385, 1395 (2007)); MPEP § 2144.05 (“A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention.”)(citing *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997)); and MPEP § 2145 (“It is improper to combine references where the references teach away from their combination.”)(citing *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)).

Applicant further contends that the combination cannot support a rejection under 35 U.S.C. § 103(a) as such a combination would render Stobbs et al. unsuitable for its intended purpose and change its principle of operation. As noted above, Stobbs et al. seeks to replace Flash memory. Therefore, incorporation of the SYNCFLASH synchronous Flash memory as described in Lai et al. would render the replacement memory device 100 unsuitable for its intended purpose of avoiding the use of Flash memory, and would change a principle of operation of the replacement memory device 100 by incorporating Flash memory into a device intended to avoid Flash memory. As such, Applicant contends that the references cannot be combined as asserted. MPEP § 2143.01 (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”)(citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)) and (“If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.”)(citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Furthermore, if Stobbs et al. were to be modified as asserted by the Office Action, Applicant contends that the replacement memory device 100 of Stobbs et al. would be inoperable in its computer 50 of Figure 2 in that it expressly replaces a Flash RAM 24 of Figure 1. In particular, if the replacement memory device 100 were to incorporate the synchronous DRAM

interface of Lai et al., it could not function as a replacement for the Flash RAM 24 as the computer 50 would necessarily use a memory interface suitable for communication with the Flash RAM 24, which would be incapable of accessing a replacement memory device 100 having an SDRAM interface. *See*, MPEP § 2145 (“However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose.”).

Applicant has taught a memory device having a combination of non-volatile memory array, a buffer memory and a controller to manage the non-volatile memory array and the buffer memory and present the memory device to an external synchronous memory interface as a synchronous memory device. Applicant contends that such a device is useful by supporting in-place code execution and by allowing it to function as a boot device. *See*, Specification, paragraph 0046. Applicant contends that the cited references, taken either alone or in combination, fail to teach or suggest a memory device having a non-volatile memory array, a buffer memory, an external synchronous memory interface and a controller coupled to the non-volatile memory array, the buffer memory and the external synchronous memory interface as recited in claim 1, wherein the controller is adapted to interface to and manage the non-volatile memory array and buffer memory and to present the non-volatile memory device as a synchronous memory device through the external synchronous memory interface. As remaining independent claims are rejected only with reference to the reasoning provided with respect to claim 1, Applicant contends that remaining independent claims 22, 27, 45, 60, 75, 79, 94, 96, 98 and 99 are thus also patentably distinct for the same reasoning as provided with respect to claim 1. Applicant thus contends that the cited references, taken either alone or in combination, fail to teach or render obvious the apparatus and methods as claimed in independent claims 1, 22, 27, 45, 60, 75, 79, 94, 96, 98 and 99 as there is no viable combination of the references that can support a rejection under 35 U.S.C. § 103(a).

As claims 2-4, 6-7, 10, 13 and 17-21 include all patentable elements of claim 1, claims 23-26 include all patentable elements of claim 22, claims 28-31 and 39-44 include all patentable elements of claim 27, claims 46-49 and 54-59 include all patentable elements of claim 45, claims 61-62, 65 and 70-74 include all patentable elements of claim 60, claims 76 and 78 include all patentable elements of claim 75, claims 80-81, 84 and 89-93 include all patentable elements of claim 79, claim 95 includes all patentable elements of claim 94, claim 97 includes all patentable

elements of claim 96, these claims are also believed to be allowable. Applicant thus respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a), and allowance of claims 1-4, 6-7, 10, 13, 17-31, 39-49, 54-62, 65, 70-76, 78-81, 84 and 89-99.

#### Claim 5

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370), further in view of Widdup (U.S. Patent No. 6,651,148). Applicant respectfully traverses.

Applicant contends that it has shown claim 1 to be patentably distinct from the primary reference of Stobbs et al. in view of the secondary reference of Lai et al., taken either alone or in combination. Applicant notes that the tertiary reference of Widdup is not asserted to cure the deficiencies of the primary and secondary references as noted with respect to claim 1, and Applicant contends that it cannot do so. As such, Applicant contends that claim 1 remains patentably distinct from Stobbs et al. in view of Lai et al. and further in view of Widdup, whether taken alone or in combination. As claim 5 includes all patentable elements of claim 1, Applicant contends that claim 5 is also patentably distinct from the cited references, taken either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claim 5.

#### Claims 8, 32, 50, 63-64, 77 and 82-83

Claims 8, 32, 50, 63-64, 77 and 82-83 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370), further in view of Wallace et al. (U.S. Patent No. 6,628,537). Applicant respectfully traverses.

Applicant contends that it has shown claims 1, 27, 45, 60, 75 and 79 to be patentably distinct from the primary reference of Stobbs et al. in view of the secondary reference of Lai et al., taken either alone or in combination. Applicant notes that the tertiary reference of Wallace et al. is not asserted to cure the deficiencies of the primary and secondary references as noted with respect to claims 1, 27, 45, 60, 75 and 79, and Applicant contends that it cannot do so. As such, Applicant contends that claims 1, 27, 45, 60, 75 and 79 remain patentably distinct from Stobbs et

al. in view of Lai et al. and further in view of Wallace et al., whether taken alone or in combination. As claim 8 includes all patentable elements of claim 1, claim 32 includes all patentable elements of claim 27, claim 50 includes all patentable elements of claim 45, claims 63-64 include all patentable elements of claim 60, claim 77 includes all patentable elements of claim 75, and claims 82-83 include all patentable elements of claim 80, Applicant contends that claims 8, 32, 50, 63-64, 77 and 82-83 are also patentably distinct from the cited references, taken either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claims 8, 32, 50, 63-64, 77 and 82-83.

Claims 9, 33, 51, 66 and 85

Claims 9, 33, 51, 66 and 85 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370), further in view of Meyer et al. (U.S. Patent No. 4,065,862). Applicant respectfully traverses.

Applicant contends that it has shown claims 1, 27, 45, 60, 75 and 79 to be patentably distinct from the primary reference of Stobbs et al. in view of the secondary reference of Lai et al., taken either alone or in combination. Applicant notes that the tertiary reference of Meyer et al. is not asserted to cure the deficiencies of the primary and secondary references as noted with respect to claims 1, 27, 45, 60 and 79, and Applicant contends that it cannot do so. As such, Applicant contends that claims 1, 27, 45, 60 and 79 remain patentably distinct from Stobbs et al. in view of Lai et al. and further in view of Meyer et al., whether taken alone or in combination. As claim 9 includes all patentable elements of claim 1, claim 33 includes all patentable elements of claim 27, claim 51 includes all patentable elements of claim 45, claim 66 includes all patentable elements of claim 60, and claim 85 includes all patentable elements of claim 79, Applicant contends that claims 9, 33, 51, 66 and 85 are also patentably distinct from the cited references, taken either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claims 9, 33, 51, 66 and 85.

Claims 14 and 36

Claims 14 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370), further in view of Bartoli et al. (U.S. Patent No. 6,442,068). Applicant respectfully traverses.

Applicant contends that it has shown claims 1 and 27 to be patentably distinct from the primary reference of Stobbs et al. in view of the secondary reference of Lai et al., taken either alone or in combination. Applicant notes that the tertiary reference of Bartoli et al. is not asserted to cure the deficiencies of the primary and secondary references as noted with respect to claims 1 and 27, and Applicant contends that it cannot do so. As such, Applicant contends that claims 1 and 27 remain patentably distinct from Stobbs et al. in view of Lai et al. and further in view of Bartoli et al., whether taken alone or in combination. As claim 14 includes all patentable elements of claim 1 and claim 36 includes all patentable elements of claim 27, Applicant contends that claims 14 and 36 are also patentably distinct from the cited references, taken either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claims 14 and 36.

Claims 15-16, 37-38, 69 and 88

Claims 15-16, 37-38, 69 and 88 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stobbs et al. (U.S. Patent Application Publication No. 2004/0039871) in view of Lai et al. (U.S. Patent Application Publication No. 2003/0154370), further in view of the 'Background of the Invention'. Applicant respectfully traverses.

Applicant contends that it has shown claims 1, 27, 60 and 79 to be patentably distinct from the primary reference of Stobbs et al. in view of the secondary reference of Lai et al., taken either alone or in combination. Applicant notes that the tertiary reference of the Background of the Invention is not asserted to cure the deficiencies of the primary and secondary references as noted with respect to claims 1, 27, 60 and 79, and Applicant contends that it cannot do so. As such, Applicant contends that claims 1, 27, 60 and 79 remain patentably distinct from Stobbs et al. in view of Lai et al. and further in view of the Background of the Invention, whether taken alone or in combination. As claims 15-16 include all patentable elements of claim 1, claims 37-38 include all patentable elements of claim 27, claim 69 includes all patentable elements of claim

60, and claim 88 includes all patentable elements of claim 79, Applicant contends that claims 15-16, 37-38, 69 and 88 are also patentably distinct from the cited references, taken either alone or in combination. Applicant thus respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a), and allowance of claims 15-16, 37-38, 69 and 88.

**CONCLUSION**

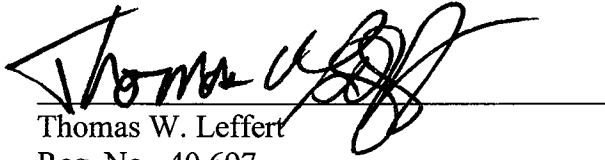
In view of the above remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. Please charge any further fees deemed necessary or credit any overpayment to Deposit Account No. 501373.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2204.

Respectfully submitted,

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